



eloFlex - 471EFR...

eloFlex 471 EFR... é um relé de segurança configurável que oferece 4 entradas de segurança independentes (2 canais) e até 4 saídas de segurança, bem como 4 saídas de controle.

A programação da lógica de segurança é feita individualmente para cada cliente/aplicação.

Especificação Técnica

- até 4 funções de segurança podem ser implementadas neste controlador programável
- o número de saídas de segurança (relés) pode ser definido de acordo com a necessidade individual de cada cliente/aplicação, fazendo desse controlador um ótimo custo-benefício
- maior funcionalidade com menor espaço de montagem
- as unidades são à prova de adulteração, pois são configuradas pela elobau durante a produção
- econômico e confiável, graças à sua exclusiva configuração
- maior flexibilidade devido a grande variedade de configurações disponíveis, adaptando-se às suas necessidades
- sensores adicionais podem ser conectados através de interfaces elobau para expansão de entrada

As seguintes lógicas de segurança estão disponíveis neste controlador:

| Lógica: | Funções de segurança: |
|---------|-----------------------|
| AND | t_{ON} / t_{OFF} |
| OR | Safetyfunction |
| XOR | 2-hand |
| NAND | Safetygate |
| NOR | E-stop |
| XNOR | N.O./N.O. |
| NOT | or N.O./N.C. |

Desenho técnico

IMAGE 1/4



IMAGE 2/4

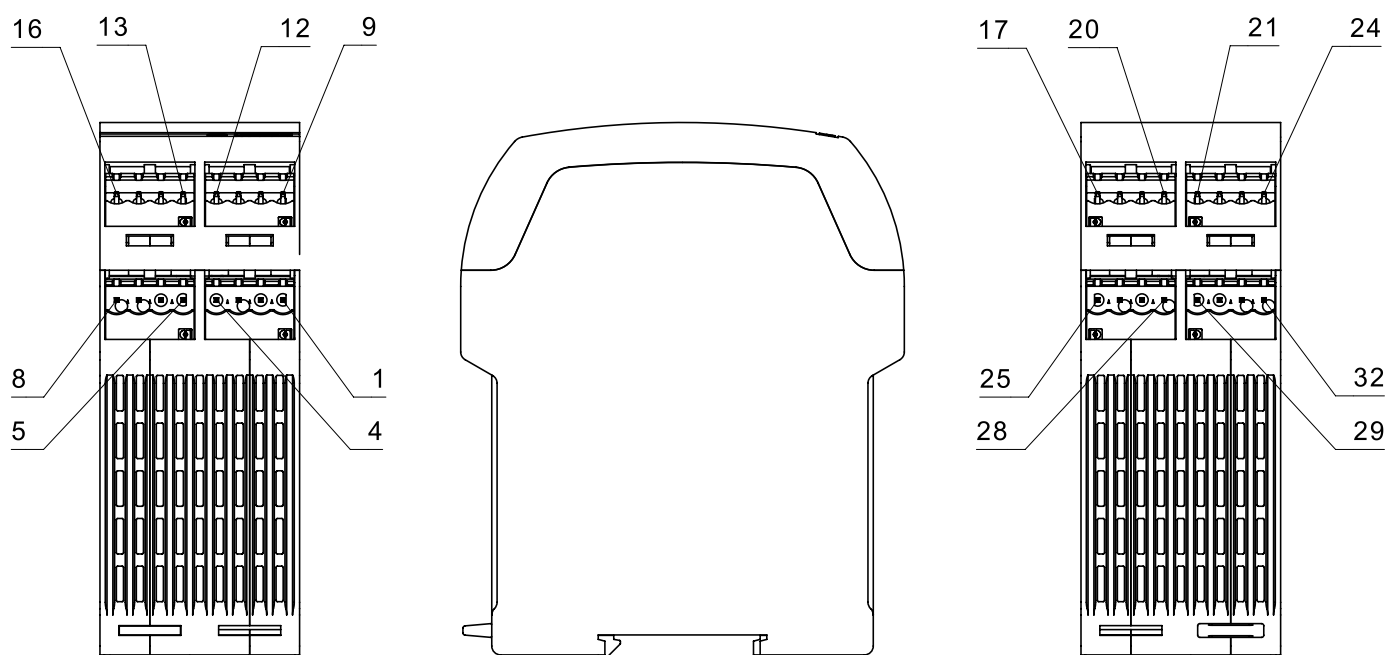


IMAGE 3/4

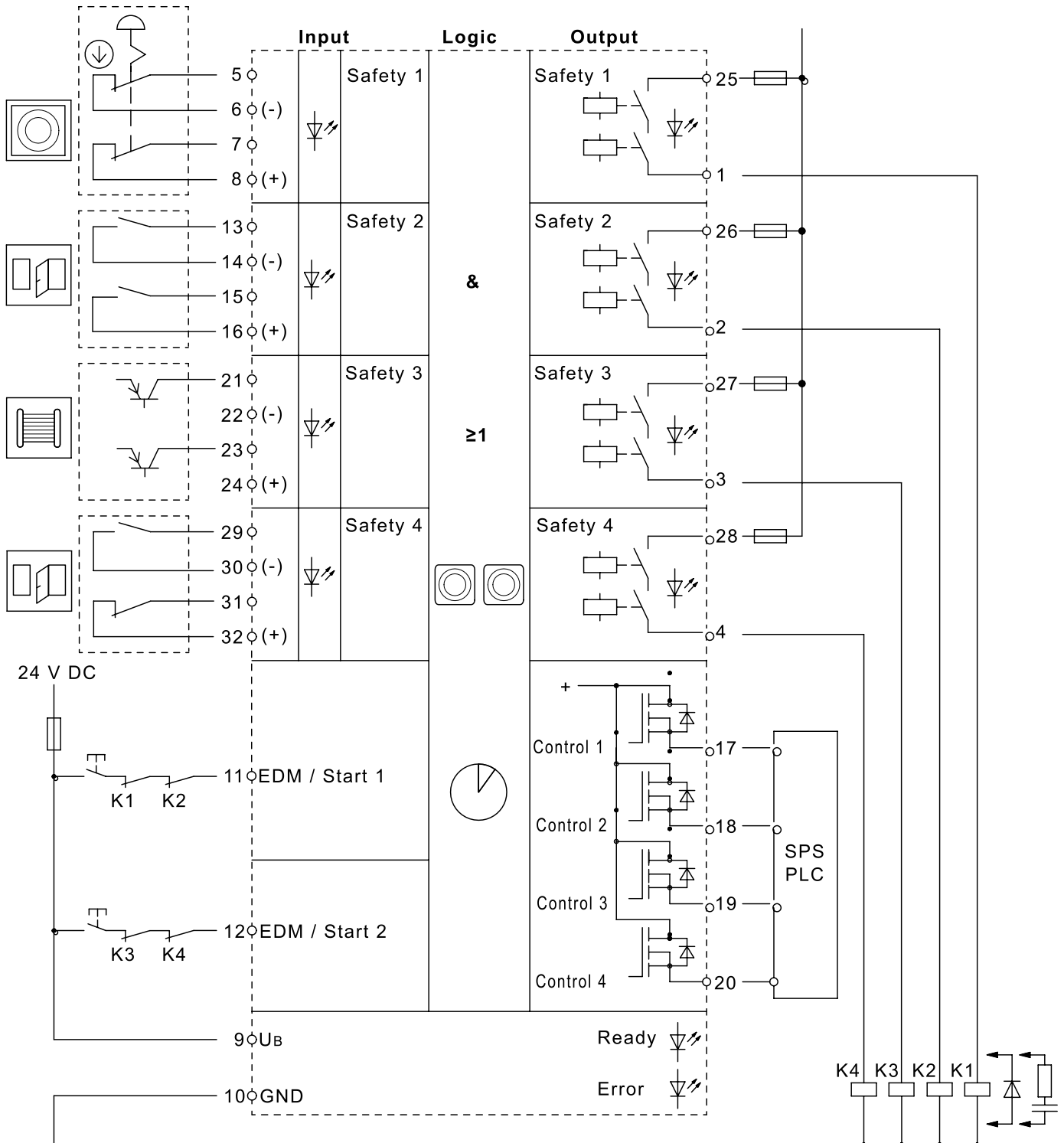


IMAGE 4/4

471EFR Verdrahtungsbeispiel PL e



Características do artigo

| Attribute | 471EFR2D14K... | 471EFR3E11K... | 471EFR3E12K... | 471EFR3E13K... | 471EFR3E14K... | 471EFR3E11K_ ▶ |
|---|--------------------------------|----------------|----------------|----------------|----------------|----------------|
| Max. switching voltage at safety output | 30 V DC | | | | | |
| Max. switching voltage at control output | 26.4 V DC | | | | | |
| Max. switching voltage at safety output | 250 V AC | | | | | |
| Max. switching current at safety output | 3 A | | | | | |
| Max. switching current at control output | 0.1 A | | | | | |
| Max. switching power at control output | 2.64 W | | | | | |
| Max. switching power at safety output | 750 VA | | | | | |
| Number of configurable relay safety outputs | 4 | 1 | 2 | 3 | 4 | 1 |
| Number of electronic control outputs | 4 | | | | | |
| Number of redundant safety inputs | 4 | | | | | |
| Stop category 0 (STO) nach IEC 61800-5-2 | yes | | | | | |
| Stop category 1 (SS1) nach IEC 61800-5-2 | yes | | | | | |
| EDM/start input | yes | | | | | |
| Start function | Depending on the configuration | | | | | |
| Utilization category | AC-15 / DC-13 | | | | | |
| Operating voltage min. | 21.6 V DC | | | | | |
| Operating voltage max. | 26.4 V DC | | | | | |
| Current consumption | 800 mA | | | | | |
| Power consumption | 21.12 W | | | | | |
| Cross-short detection | yes | | | | | |
| LED display | two-coloured | | | | | |
| Operating time | 3000 ms | | | | | |
| Fuse operating voltage | 1A fast | | | | | |
| Overvoltage category | III | | | | | |
| Fuse safety output | 3A slow blow | | | | | |

Características do artigo

| Attribute | 471EFR2D14K... | 471EFR3E11K... | 471EFR3E12K... | 471EFR3E13K... | 471EFR3E14K... | 471EFR3E11K_ ▶ |
|--|--------------------------------|---------------------------|----------------|----------------|----------------|----------------|
| Min. switching voltage at control output | 21.6 V DC | | | | | |
| Max. switching power at safety output | 90 W | | | | | |
| Max no operating cycles at 0.5A switching current (ohmic load) | 1000000 | 3000000 | | | | |
| Max no operating cycles at 3A switching current (ohmic load) | 190000 | 280000 | | | | |
| Contact form | Abhängig von der Konfiguration | | | | | |
| PL acc. to EN ISO 13849-1 | d | e | | | | |
| SIL acc. to IEC 61508 | 2 | 3 | | | | |
| SIL CL acc. to IEC 62061 | 2 | 3 | | | | |
| PFHD according to IEC 61508 | 1,26x10 ⁻⁸ 1/h | 3,28x10 ⁻⁹ 1/h | | | | |
| Operating life | 20 Tm | | | | | |
| Category acc. to EN ISO 13849-1 | 3 | 4 | | | | |
| Hardware fault tolerance (HFT) according to IEC 61508 | 1 | | | | | |
| Max. switching frequency safety output with load | 360 1/h | | | | | |
| Max. switching frequency safety output with load | 72000 1/h | 18000 1/h | | | | |
| Dimensions | 130 x 45 x 120 mm (H/B/T) | | | | | |
| Housing material | PA, PC | | | | | |
| Housing colour | schwarz | | | | | |
| Protection class | IP30 IEC60529 | | | | | |
| Operating temperature min. | -15 °C | | | | | |
| Max. operating temperature | 55 °C | | | | | |
| Min. storage temperature | -40 °C | -25 °C | | | | |
| Max. storage temperature | 70 °C | | | | | |
| Relative humidity | 5 - 85 % | | | | | |
| Protection class, installation space | IP54 DIN EN 60529 | | | | | |
| Shock resistance (Norm) | 30 g / 11 ms | | | | | |

Características do artigo

| Attribute | 471EFR2D14K... | 471EFR3E11K... | 471EFR3E12K... | 471EFR3E13K... | 471EFR3E14K... | 471EFR3E11K_ ▶ |
|------------------------------------|--|----------------|----------------|----------------|----------------|----------------|
| Continuous shock resistance (Norm) | 10 g / 16 ms | | | | | |
| Vibration resistance (Norm) | 10 ... 55 Hz | | | | | |
| Air pressure | 860 - 1060 hPa | | | | | |
| Delta tmax | 0.5 °C/min | | | | | |
| Mounting type | Mounting rail | | | | | |
| Weight | 400 g | | | | | |
| Torque for connection terminals | 0.5 N m | | | | | |
| Spring-type terminals | yes | | | | | |
| Screw terminals | Optional | | | | | |
| Double terminals | Optional | | | | | |
| Pluggable connection terminals | yes | | | | | |
| Min. connection cross section | 0.2 mm² | | | | | |
| Max. connection cross section | 2.5 mm² | | | | | |
| Certified in accordance with | EN ISO 13849-1 IEC 61508 IEC 62061 UL 508 / CSA 22.2 | | | | | |
| CE label | yes | | | | | |

Características do artigo

| Attribute | 471EFR3E12K_ | 471EFR3E13K_ | 471EFR3E14K_ |
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| Max. switching voltage at safety output | 250 V AC | | |
| Max. switching current at safety output | 3 A | | |
| Max. switching current at control output | 0.1 A | | |
| Max. switching power at control output | 2.64 W | | |
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| Number of electronic control outputs | 4 | | |
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| Stop category 0 (STO) nach IEC 61800-5-2 | yes | | |
| Stop category 1 (SS1) nach IEC 61800-5-2 | yes | | |
| EDM/start input | yes | | |
| Start function | Depending on the configuration | | |
| Utilization category | AC-15 / DC-13 | | |
| Operating voltage min. | 21.6 V DC | | |
| Operating voltage max. | 26.4 V DC | | |
| Current consumption | 800 mA | | |
| Power consumption | 21.12 W | | |
| Cross-short detection | yes | | |
| LED display | two-coloured | | |
| Operating time | 3000 ms | | |
| Fuse operating voltage | 1A fast | | |
| Overvoltage category | III | | |
| Fuse safety output | 3A slow blow | | |
| Min. switching voltage at control output | 21.6 V DC | | |

Características do artigo

| Attribute | 471EFR3E12K_ | 471EFR3E13K_ | 471EFR3E14K_ |
|--|--------------------------------|--------------|--------------|
| Max. switching power at safety output | 90 W | | |
| Max no operating cycles at 0.5A switching current (ohmic load) | 3000000 | | |
| Max no operating cycles at 3A switching current (ohmic load) | 280000 | | |
| Contact form | Abhängig von der Konfiguration | | |
| PL acc. to EN ISO 13849-1 | e | | |
| SIL acc. to IEC 61508 | 3 | | |
| SIL CL acc. to IEC 62061 | 3 | | |
| PFHD according to IEC 61508 | 3,28x10 ⁻⁹ 1/h | | |
| Operating life | 20 Tm | | |
| Category acc. to EN ISO 13849-1 | 4 | | |
| Hardware fault tolerance (HFT) according to IEC 61508 | 1 | | |
| Max. switching frequency safety output with load | 360 1/h | | |
| Max. switching frequency safety output with load | 18000 1/h | | |
| Dimensions | 130 x 45 x 120 mm (H/B/T) | | |
| Housing material | PA, PC | | |
| Housing colour | schwarz | | |
| Protection class | IP30 IEC60529 | | |
| Operating temperature min. | -15 °C | | |
| Max. operating temperature | 55 °C | | |
| Min. storage temperature | -25 °C | | |
| Max. storage temperature | 70 °C | | |
| Relative humidity | 5 - 85 % | | |
| Protection class, installation space | IP54 DIN EN 60529 | | |
| Shock resistance (Norm) | 30 g / 11 ms | | |
| Continuous shock resistance (Norm) | 10 g / 16 ms | | |
| Vibration resistance (Norm) | 10 ... 55 Hz | | |
| Air pressure | 860 - 1060 hPa | | |

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| Attribute | 471EFR3E12K_ | 471EFR3E13K_ | 471EFR3E14K_ |
|---------------------------------|--|--------------|--------------|
| Delta tmax | 0.5 °C/min | | |
| Mounting type | Mounting rail | | |
| Weight | 400 g | | |
| Torque for connection terminals | 0.5 N m | | |
| Spring-type terminals | yes | | |
| Screw terminals | Optional | | |
| Double terminals | Optional | | |
| Pluggable connection terminals | yes | | |
| Min. connection cross section | 0.2 mm² | | |
| Max. connection cross section | 2.5 mm² | | |
| Certified in accordance with | EN ISO 13849-1 IEC 61508 IEC 62061 UL 508 / CSA 22.2 | | |
| CE label | yes | | |